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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,597	12/03/2004	Etienne Degand	4004-063-30 NATL	8558

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EXAMINER

PATEL, VINOD D

ART UNIT	PAPER NUMBER
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3742

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/516,597	Applicant(s) DEGAND ET AL.	
	Examiner Vinod D. Patel	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED OFFICE ACTION

Response to Amendment

1. Response to non-final action is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 8-9, 12, 14, 18-19 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al. (GB2186769A) in view of Smallbone (US4251316).

Hasegawa et al. (GB2186769A) discloses an electrically heatable glazing panel (Fig. 1-18B) comprising a substrate (11, 31) and at least two electrically heatable zones, each electrically heatable zone comprising: a substantially transparent, electrically conductive coating layer (12, 32), spaced bus bars (13a, 13b, 33a, 33b, 33c, 33d) adapted to supply electrical voltage across the substantially transparent, electrically conductive coating layer, and a conductive path defined between the bus bars, slits (34, 35) with different patterns as shown in Fig 2-10 to form non conductive portions, the length of the conductive path is substantially the same in each zone as shown in Figure 14, the bus bars are provided along the length of the lower edge of the glazing panel as shown in Figure 11a, at least two electrically heatable zones (32a, 32b, 32c, 32d, are

Art Unit: 3742

delimited by at least one zone boundary (34) which is substantially insulating, (the zone boundary (34) is less likely electrically conductive than the coating layer which is substantially non conductive of electrical current) as shown in Figure 14, the one or more zone boundaries are provided by non-coated portions (34, 35) of the glazing panel, the outer most slit (34) constitutes the "zone boundaries" each slit is 100 μm or less (Page 1, line 129- page 2, line 2), the substrate is glass (21), the glazing panel is for an automobile or the like used as window glass (Page 1, line 6-10).

With respect to claim 1, Hasegawa et al. (GB2186769A) does not disclose at least one of the electrically heatable zones the conductive path changes direction at least once along its length within the electrically conductive coating layer so as to double back upon itself.

With respect to claim 2, Hasegawa et al. (GB2186769A) does not disclose at least one portion of the conductive path extends substantially from a lower edge of the glazing panel to an upper edge of the glazing panel.

With respect to claim 3, Hasegawa et al. (GB2186769A) does not disclose the conductive path changes direction at least once along its length within the electrically conductive coating layer so as to double back upon itself.

With respect to claim 14, Hasegawa et al. (GB2186769A) does not disclose the the glazing panel is laminated.

Smallbone (US4251316) discloses an electrically heatable glazing panel (Fig. 1-14) comprising a substrate (1) and at least two electrically heatable zones, each electrically heatable zone comprising: an electrically conductive coating layer, spaced

Art Unit: 3742

bus bars (4) adapted to supply electrical voltage across the substantially transparent, electrically conductive coating layer, and a conductive path defined between the bus bars in which at least one of the electrically heatable zones the conductive path changes direction at least once along its length within the electrically conductive coating layer so as to double back upon it self, one portion of the conductive path extends substantially from a lower edge of the glazing panel to an upper edge of the glazing panel as shown in the Figures by slit (5) to form non conductive portions on the surface to avoid hot spots in the predetermined area and to provide uniform temperature distribution (column 3, lines 25-35), the length of the conductive path is substantially the same in each zone as shown in the Figures, all the bus bars are provided along the length of the lower edge of the glazing panel as shown in Figures (1,4,5,7 and 8), the electrically heatable zones are delimited by at least one zone boundary which is substantially insulating, the one or more zone boundaries are provided by non-coated portions (5) of the glazing panel, the glazing panel is laminated (claim 1).

It would have been obvious to one of ordinary skill in the art at the time of invention to provide slit to provide a conductive path between two bus bars in which the electrically heatable zones the conductive path changes direction along its length within the electrically conductive coating layer so as to double back upon it self in a laminated heatable glazing panel as taught by Smallbone (US4251316) in order to avoid hot spots in the predetermined area and to provide uniform temperature distribution for an electrically heatable glazing panel of Hasegawa et al. (GB2186769A).

With respect to claim 21, Hasegawa et al. (GB2186769A) discloses an electrically heatable glazing panel (Fig. 11A) comprising spaced first (33a), second (33c) and third (33b) electrical bus bars arranged in order at and along an edge of the glazing panel a first electrically heatable pathway defined between the first and the second bus bars a second electrically heatable pathway defined between the second and the third bus bars.

With respect to claim 22, Hasegawa et al. (GB2186769A) discloses an electrically heatable glazing panel is adapted to provide for electrical heating of the first electrically heatable pathway by means of a difference in electrical potential applied between the second and first bus bars and which is adapted to provide for electrical heating of the second electrically heatable pathway by means of a difference in electrical potential applied between the second and third bus bars as shown in Fig 11A.

With respect to claim 23, Hasegawa et al. (GB2186769A) discloses an electrically heatable glazing panel, the first and third bus bars are adapted to be maintained at substantially the same electrical potential for heating of the first and second electrically heatable pathways as shown in Fig 11A.

With respect to claim 24, Hasegawa et al. (GB2186769A) discloses an electrically heatable glazing panel for heating of the first and second electrically heatable pathways, the second bus bar is adapted to be maintained at a negative electrical potential and the first and the third bus bars are adapted to be maintained at a positive electrical potential as shown in Fig 11A.

Art Unit: 3742

4. Claims 10-11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al. (GB2186769A) in view of Smallbone (US4251316) and further in view of Wo00/72635.

The claim differs from Hasegawa et al. (GB2186769A) in calling for a solar control coating layer, a resistance between 2 and 25 to ohms/square.

WO00/72635 discloses an electrically-heatable solar control coating used to heat automotive glass. See abstract. An electrically-heatable solar control coatings for glazing panels is well known in the art, solar control coatings not only are electrically heatable, they also reduce incident solar energy while allowing visible light to pass therethrough. See P. 1, lines 17-28. Moreover, as is well known in the art, such electrically heatable coatings have resistances from 2-4, and in some cases, 8-20 ohms per square. See P. 3, lines 20-30. In view of WO00/72635, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a solar control coating in the apparatus of GB2186769 to provide a coating that was not only electrically heatable along the surface of the glazing, but also reduces incident solar energy while allowing visible light to pass therethrough.

The claims also differ from GB2186769 in calling for the panel to be thermally toughened. But such a toughening technique is well known in the art as evidenced by WO00/72635 in P. 5, line 3 (disclosing tempering). In view of WO00/72635, it would have been obvious to one of ordinary skill in the art at the time of the invention to thermally toughen the panel, such as tempering, to increase the panel's durability and strength.

Art Unit: 3742

5. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al. (GB2186769A) in view of Smallbone (US4251316) and further in view of Spagnoli et al (US 5466911).

The claims differ from GB2186769 in calling for the glazing to be an automotive side window and to have at least one acute angle. But electrically-heated automotive side windows are well known in the art. Spagnoli et al (US 5,466,911), for example, discloses an electrically heated glazing for a vehicle's side window for deicing so that the rear view mirror 112 can be observed through the window. See Fig. 1A. Note also the glazing's acute angle. In view of Spagnoli et al (US 5,466,911), it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the glazing for a vehicle side window in the previously described apparatus to clear ice from the side window so that the rear view mirror can be observed through the window.

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al. (GB2186769A) in view of Smallbone (US4251316) and further in view of Spagnoli et al (US 5466911) & McMaster (US 3,475,588) & Marriott (US 4,119,425)..

The claim differs from the previously cited prior art in calling for the glazing panel to be substantially triangular. But conforming trapezoidal glazing panels are well known in the art as evidenced, for example, by McMaster (US 3,475,588). In Fig. 1, McMaster (US 3,475,588) discloses a trapezoidal, electrically-heated glazing panel D that forms a conforming side window. In view of McMaster (US 3,475,588), it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a

Art Unit: 3742

trapezoidal glazing panel in the previously described apparatus to form a conforming side window.

Although the panel D of McMaster (US 3,475,588) has four sides, forming a conforming an electrically-heated side window with three sides such that it is substantially triangular is well known in the art as evidenced by Marriott (US 4,119,425) noting electrically-heated, triangular conforming side windows 13 in Figs. 1-3. Such an arrangement uses less glass in manufacture than trapezoidal conforming windows. In view of McMaster (US 3,475,588), it would have been obvious to one of ordinary skill in the art at the time of the invention to form the conforming side window with a triangular shape in the previously described apparatus to minimize the amount of glass used in manufacture, thus reducing cost.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al. (GB2186769A) in view of Smallbone (US4251316) and further in view of WO00/72635.

The claims also differ from GB2186769 in calling for the temperature variation to be less than 15 degrees C following voltage application and equilibrium. Fabricating a glazing panel with a heatable coating to uniformly heat the panel notwithstanding the presence of discontinuities in the coating, however, is well known in the art.

WO00/72635 discloses providing an electrically conductive band to bound a data transmission window (discontinuity) in the coating to more uniformly heat the panel and minimize perturbations. See abstract and P. 5, lines 6-20. In view of WO00/72635, it would have been obvious to one of ordinary skill in the art at the time of the invention to

Art Unit: 3742

provide means to uniformly heat the panel notwithstanding the presence of discontinuities in the coating to minimize heating perturbations and hot spots along the panel.

8. Claims 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al. (GB2186769A).

With respect to claim 25-27 and 29, Hasegawa et al. (GB2186769A) discloses claimed invention and teaches use of three bus bars and heatable pathway between bus bars except fourth and fifth bus bar.

Hasegawa et al. (GB2186769A) discloses the claimed invention except for fourth and fifth bus bar . It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide fourth and fifth bus bar, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

With respect claim 28, Hasegawa et al. (GB2186769A) discloses the claimed invention except for the electrically heatable pathways are provided by electrically heatable wires, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide electrically heatable wires, since it has been held to be within the general skill or a worker in the art to select a known material such as film or coating or wires on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

9. Applicant's arguments filed 2/2/07 have been fully considered but they are not persuasive. Hasegawa discloses at least two electrically heatable zones (32a, 32b, 32c,

32d) being delimited by at least one zone boundary (34) which is substantially insulating (the zone boundary (34) is less likely electrically conductive than the coating layer which is substantially non conductive of electrical current) as shown in the Figure 14. the insulating zone boundary (34) is same as applicant's insulating zone boundaries (6, 7, 8, 9,10, 11, 12, 13, 14, 15, 16 and page 4, lines 13-17 of applicant's specification). Prior art discloses claimed limitations.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinod D. Patel whose telephone number is 571-272-4785. The examiner can normally be reached on 7.30 A.M. TO 4.00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip Leung can be reached on 571-272-4782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Art Unit: 3742

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VP

Vinod Patel 4/20/07
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